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Patent and Trademark Office

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MLO
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/241,198 02/02/99 SCHMIDT 0-70217128ML

IM62/0621

M. LAWRENCE OLIVERIO
WOLF, GREENFIELD & SACKS
600 ATLANTIC AVENUE
BOSTON MA 02210

EXAMINER

FIGUEROA, J

ART UNIT	PAPER NUMBER
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1772

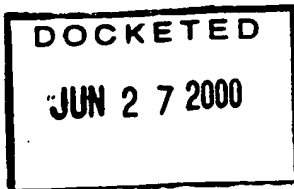
DATE MAILED:

05/21/00

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks



File Folder	09/21/00	Initials
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Confirmation		

del 29/00

Office Action Summary

Application No.

09/241,598

Applicant(s)

Schmidt et al.

Examiner

John J. Figueroa

Group Art Unit

1772

☐ Responsive to communication(s) filed on _____

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1-20 is/are pending in the application

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-20 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892 ✓ ✓

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 6 ✓ ✓

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948 ✓ ✓

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed on April 7, 2000 is acknowledged.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are indefinite because claim 4 recites the phrase "a polymer providing at least one of structural and oxygen barrier properties" which is vague and confusing. It is unclear from the claim language as to which specific properties the "structural and oxygen barrier properties" encompass and as to whether or not the recited polymer must provide both of said recited properties.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6 and 10-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Cochran (US 5021515) in view of Pushee (US 4392804).

Applicant's claimed invention is drawn to a package for enclosing a liquid having a wall which comprises an oxygen scavenger layer of a solid-stated polyamide, said polyamide comprising at least 200 ppm of a transition metal; wherein at least a portion of the wall has a haze of less than 10%. Dependent claims 2-17 recite, *inter alia*, the polyamide to be MXD-6; the transition metal to be cobalt; said scavenging layer to be adjacent to one or more polymer layers, which may be biaxially-oriented and/or in contact with the liquid; the package having two scavenging layers positioned between three polymer layers; the liquid to be beer; the wall having a haze of less than 5%; specified amounts of cobalt within the scavenging layer; and containers comprising said oxygen-scavenging layer.

Cochran discloses a package wall including at least one oxygen-scavenging layer, said scavenging layer comprising oxygen-scavenging compositions of at least one polymer and at least one transition metal catalyst (such as 300 ppm of cobalt) which scavenges oxygen through the metal-catalyzed oxidation of an oxidizable organic compound; wherein said layer has a permeance to oxygen of nearly zero ($0.3 \text{ cm}^3\text{mm}/\text{m}^2\text{atm day}$). (See Abstract; Col. 1, lines 35-53 Col. 4, lines 25-33; Col. 5, lines 5-10, 23-41, 58-64; Col. 5, line 66 to Col. 6, line 16; Col. 18, line 36 to Col. 24, line 53)

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Cochran further discloses preferred oxygen-scavenging compositions to comprise MXD6 nylon, which is m-xylene diamine and adipic acid, with cobalt catalysts (Col. 8, line 41 to Col. 9, line 14; Col. 12, line 49-56); whereas the wall may be a rigid sheet, a flexible film, oriented and/or a multilayered laminate of polymer layers, adjacent oxygen-scavenging layers, which provide for protection and/or rigidity of the resultant package/container (Col. 5, lines 43-58; Col. 11, lines 14-68; Fig. 3-5; Col. 12, lines 8-30).

Furthermore, Cochran discloses in Example 7 on Col. 15, 33 gm preform bottles comprising 2% by weight of MXD6 and 100 ppm of cobalt; in Example 17 on Col. 17, a preform comprising 4% pf MXD6 and 100 ppm of cobalt neodecanoate; and in Table I on Col. 13, embodiments of the oxygen-scavenging composition comprising 200 ppm of cobalt.

However, Cochran does not *specifically* disclose using solid-stated polyamides for the oxygen-scavenging layer.

However, Pushee teaches that solid stating polymeric resins prior to injection molding causes a chain growth effectively removing undesired impurities used in or produced during the melt phase polymerization of the resin. (Col. 1, lines 30-40) Likewise, Pushee teaches that the intrinsic viscosity (I.V.) of the polymer resin may be increased by effectively solid stating the resin prior to injection molding thereby providing a bottle which has a higher orientation and a desired strength while using a minimal amount of resin due to the higher resin I.V. (Col. 1, lines 1-40)

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Therefore, it would have been obvious to a person skilled in the art at the time Applicants' claimed invention was made to solid state the scavenging polymer prior to forming Cochran's beverage bottle. One skilled in the art would have been motivated to do so in order to incorporate Pushee's teachings and attain a resultant beverage bottles provided with superior mechanical properties and yet are more cost-efficient to manufacture.

Although Cochran and Pushee do not specifically disclose the resultant container/packages to be transparent (i.e the containers having little or no haze), it is the Examiner's position that since Cochran and Pushee discloses the same exact multilayered film packages/containers as claimed by Applicant, then accordingly, said packages/containers must all inherently possess the same physical properties such as haze and transparency.

6. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Collette (US 5759653).

Applicant further limits the adjacent polymer layers to be polyethylene terephthalate (PET).

Collette discloses a transparent three-layered sidewall comprising inner and outer virgin-PET layers and an oxygen-scavenging composition core layer to be used in multilayer preforms and containers such as blow-molded recycled-PET beverage bottles; wherein the oxygen-scavenging composition comprises MXD-6 nylon (meta-xylene diamine with adipic acid) and a transition metal catalyst such as cobalt, cobalt oxide or cobalt powder. (Col. 1, lines 6-18; Col. 3,

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line 50 to Col. 4, line 35; Col. 6, line 39 to Col. 8, line 11 and Fig. 4-7; Col. 9, line 60 to Col. 10, line 60; Col. 13, lines 66-67; Col. 14, lines 37-38).

Particularly, Collette discloses a three-layered sidewall comprising inner/outer virgin PET layers and a core oxygen-scavenging layer comprising 2% by weight of MXD-6 with 200 ppm of the metal activator. (Col. 9, lines 60-67)

Moreover, Collette discloses an alternative five-layered structure comprising two intermediate oxygen scavenging layers further comprising a PET/MXD-6/cobalt blend comprising preferably 4-6 of the total preform weight which provides optimum barrier protection while maintaining transparency. (Col. 9, lines 24-38)

However, Collette does not specifically disclose solid stating the scavenging polymer prior to forming the oxygen-scavenging composition.

Pushee was discussed above in paragraph #5.

Therefore, it would have been obvious to a person skilled in the art at the time Applicants' claimed invention was made to solid state the scavenging polymer prior to forming Collette's beverage bottle. One skilled in the art would have been motivated to do so in order to incorporate Pushee's teachings and attain a resultant beverage bottle with superior mechanical properties and yet more cost-efficient to manufacture.

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Conclusion


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Figueroa whose telephone number is (703) 305-0582. The Examiner can normally be reached on Monday through Thursday from 8:00 a.m. to 5:30 p.m. The Examiner can also be reached on alternate Fridays.

If the attempts to reach the Examiner are unsuccessful, the Examiner's supervisor, Ellis P. Robinson can be reached by dialing (703) 308-2364. The fax phone number for the organization where this application is assigned is (703) 305-5408.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose phone number is (703) 308-0661.

jif 

June 14, 2000


Ellis Robinson
Supervisory Patent Examiner
Technology Center 1700

NOTICE OF DRAFTSPERSON'S PATENT DRAWING REVIEW

The drawing(s) filed (insert date) 09/24/98 are:

A. ☐ approved by the Draftsperson under 37 CFR 1.84 or 1.152.

B. ☒ objected to by the Draftsperson under 37 CFR 1.84 or 1.152 for the reasons indicated below. The Examiner will require submission of new, corrected drawings when necessary. Corrected drawing must be submitted according to the instructions on the back of this notice.

1. DRAWINGS. 37 CFR 1.84(a): Acceptable categories of drawings:
Black ink. Color.

Color drawings are not acceptable until petition is granted.

Fig(s) _____

Pencil and non black ink not permitted. Fig(s) _____

2. PHOTOGRAPHS. 37 CFR 1.84 (b)

1 full-tone set is required. Fig(s) _____

Photographs not properly mounted (must use bristol board or photographic double-weight paper). Fig(s) _____

Foor quality (half-tone). Fig(s) _____

3. TYPE OF PAPER. 37 CFR 1.84(e)

Paper not flexible, strong, white, and durable.

Fig(s) _____

Erasures, alterations, overwritings, interlineations, folds, copy machine marks not accepted. Fig(s) 1-99

Mylar, velum paper is not acceptable (too thin).

Fig(s) _____

4. SIZE OF PAPER. 37 CFR 1.84(f): Acceptable sizes:

21.0 cm by 29.7 cm (DIN size A4)

21.6 cm by 27.9 cm (8 1/2 x 11 inches)

All drawing sheets not the same size.

Sheet(s) _____

Drawings sheets not an acceptable size. Fig(s) _____

5. MARGINS. 37 CFR 1.84(g): Acceptable margins:

Top 2.5 cm Left 2.5cm Right 1.5 cm Bottom 1.0 cm

SIZE: A4 Size

Top 2.5 cm Left 2.5 cm Right 1.5 cm Bottom 1.0 cm

SIZE: 8 1/2 x 11

Margins not acceptable. Fig(s) _____

Top (T) _____ Left (L)

Right (R) _____ Bottom (B)

6. VIEWS. 37 CFR 1.84(h)

REMINDER: Specification may require revision to correspond to drawing changes.

Partial views. 37 CFR 1.84(h)(2)

Brackets needed to show figure as one entity.

Fig(s) _____

Views not labeled separately or properly.

Fig(s) _____

Enlarged view not labeled separately or properly.

Fig(s) _____

7. SECTIONAL VIEWS. 37 CFR 1.84 (h)(3)

Hatching not indicated for sectional portions of an object.

Fig(s) _____

Sectional designation should be noted with Arabic or

Roman numbers. Fig(s) _____

8. ARRANGEMENT OF VIEWS. 37 CFR 1.84(i)

Words do not appear on a horizontal, left-to-right fashion when page is either upright or turned so that the top becomes the right side, except for graphs. Fig(s) _____

9. SCALE. 37 CFR 1.84(k)

Scale not large enough to show mechanism without crowding when drawing is reduced in size to two-thirds in reproduction.

Fig(s) _____

10. CHARACTER OF LINES, NUMBERS, & LETTERS.

37 CFR 1.84(i)

Lines, numbers & letters not uniformly thick and well defined, clean, durable, and black (poor line quality).

Fig(s) 1-99

11. SHADING. 37 CFR 1.84(m)

Solid black areas pale. Fig(s) _____

Solid black shading not permitted. Fig(s) _____

Shade lines, pale, rough and blurred. Fig(s) _____

12. NUMBERS, LETTERS, & REFERENCE CHARACTERS.

37 CFR 1.84(p)

Numbers and reference characters not plain and legible.

Fig(s) _____

Figure legends are poor. Fig(s) _____

Numbers and reference characters not oriented in the same direction as the view. 37 CFR 1.84(p)(1)

Fig(s) _____

English alphabet not used. 37 CFR 1.84(p)(2)

Figs _____

Numbers, letters and reference characters must be at least .32 cm (1/8 inch) in height. 37 CFR 1.84(p)(3)

Fig(s) _____

13. LEAD LINES. 37 CFR 1.84(q)

Lead lines cross each other. Fig(s) _____

Lead lines missing. Fig(s) _____

14. NUMBERING OF SHEETS OF DRAWINGS. 37 CFR 1.84(t)

Sheets not numbered consecutively, and in Arabic numerals beginning with number 1. Sheet(s) _____

15. NUMBERING OF VIEWS. 37 CFR 1.84(u)

Views not numbered consecutively, and in Arabic numerals, beginning with number 1. Fig(s) _____

16. CORRECTIONS. 37 CFR 1.84(w)

Corrections not made from prior PTO-948 dated _____

17. DESIGN DRAWINGS. 37 CFR 1.152

Surface shading shown not appropriate. Fig(s) _____

Solid black shading not used for color contrast.

Fig(s) _____

COMMENTS

FORM PTO-1449(Modified)

LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S
INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO. C0762/7238

SERIAL NO. 09/241,598

APPLICANT. Schmidt et al.

BEST AVAILABLE COPY

FILING DATE February 2, 1999

GROUP 1772

U.S. PATENT DOCUMENTS

Exam Init	Ref Des	Document No.	Date	Name	Class	Sub Class	FILING DATE If Appropriate
SE		5,866,649	2/2/99	Hong et al.	524	538	6/7/95

FOREIGN PATENT DOCUMENTS

		Doc. No. (11)	Pub. Date (43)	Country	Class	Sub Class	Translation Yes No
SE		EP 0520257 A2	30.12.92	Europe			
SE		EP 0507207 A2	07.10.92	Europe			
SE		EP 0301719 A1	01.02.89	Europe			
SE		EP 0380319 A1	01.08.90	Europe			
SE		WO 90/00504	25.01.90	PCT			
SE		WO 90/00578	25.01.90	PCT			
SE		WO 96/18685	20.06.96	PCT			
SE		WO 96/18686	20.06.96	PCT			

OTHER ART

(Including Author, Title, Date, Pertinent Pages, Publication, Etc.)

* a copy of this reference is not provided as it was previously cited by or submitted to the office in a prior application, Serial No. _____, filed _____, and relied upon for an earlier filing date under 35 U.S.C. 120 (continuation, continuation-in-part, and divisional applications).

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered.
Include copy of this form with next communication to applicant

FORM PTO-1449(Modified)

ATTY. DOCKET NO.: C0762/7238

SERIAL NO.: 09/241,598

LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S
INFORMATION DISCLOSURE STATEMENT

APPLICANT: Steven L. Schmidt et al.

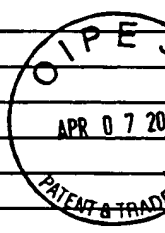
FILING DATE: 02/02/99

GROUP: 1772

U.S. PATENT DOCUMENTS

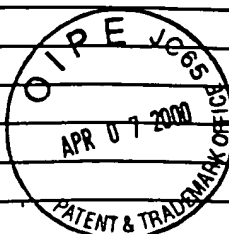
Exam Init	Ref Des	Document No.	Date	Name	Class	Sub Class	FILING DATE If Appropriate
25F		Re 29340	08/02/77	Matsunami et al.	428	216	
		3,586,514	06/22/71	Vijlbrie	99	171	
		3,686,069	08/22/72	Winkler et al.	151	227	
		4,018,746	04/19/77	Brinkmann et al.	260	78	
		4,038,228	07/26/77	Taylor	521	33	
		4,048,361	09/13/77	Valyi	521	33	
		4,101,720	07/18/78	Taylor et al.	521	33	
		4,104,466	08/01/78	Tsuchida et al.	521	33	
		4,172,069	10/23/79	Cordes et al.	521	33	
		4,198,792	04/22/80	Christensen et al.	521	33	
		4,206,100	06/03/80	Kyo et al.	260	22	
		4,237,034	12/02/80	Tomka et al.	260	12	
		4,261,473	04/14/81	Yamada et al.	215	15	
		4,398,642	08/16/83	Okudaira et al.	215	15	
		4,500,668	02/19/85	Shimizu et al.	524	43	
		4,501,781	02/26/85	Kushida et al.	428	35.7	
		4,702,966	10/27/87	Farrell et al.	428	35.7	
		4,728,549	03/01/88	Shimizu et al.	428	35.7	
		4,800,129	01/24/89	Deak et al.	428	35.7	
		4,818,782	04/04/89	Bissot	524	43	
		4,908,272	03/13/90	Harada et al.	428	35.7	
		4,957,980	09/18/90	Kobayashi et al.	524	43	
		4,980,211	12/25/90	Kushida et al.	428	35.7	
		4,983,432	01/08/91	Bissot	428	35.7	
25F		5,021,515	06/04/91	Cochran et al.	524	43	
		5,028,462	07/02/91	Matlack et al.	428	35.7	
		5,034,252	07/23/91	Nilsson et al.	428	35.7	
		5,049,624	09/17/91	Adams et al.	524	43	
		5,068,136	11/26/91	Yoshida et al.	428	35.7	
		5,077,111	12/31/91	Collette	428	35.7	
		5,159,005	10/27/92	Frandsen et al.	524	43	
		5,194,478	03/16/93	Frandsen et al.	524	43	
		5,202,052	04/13/93	Zenner et al.	202	188.28	
		5,211,875	05/18/93	Speer et al.	202	188.28	
		5,239,016	08/24/93	Cochran et al.	524	43	
		5,246,753	09/21/93	Koyama et al.	428	35.7	
		5,281,360	01/25/94	Hong et al.	202	188.28	
		5,302,430	04/12/94	Ardechir et al.	428	35.7	
		5,310,497	05/10/94	Ve Speer et al.	528	289	

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John F. Fisher 6/00

5,314,987	05/24/94	Kim et al.	528	289	
5,350,622	09/27/94	Speer et al.	428	215	
5,352,499	10/04/94	Willard	428	352	
5,364,555	11/15/94	Zenner et al.	282	188.28	
5,492,742	02/20/96	Zenner et al.	428	23.2	
5,498,364	03/12/96	Speer et al.	252	188.28	
5,529,833	06/25/96	Speer et al.	428	215	
5,627,239	05/06/97	Ching et al.	825	330	
5,639,815	06/17/97	Cochran et al.	524	400	
5,641,825	06/24/97	Bacskai et al.	524	398	
5,660,761	08/26/97	Katsumoto et al.	52	188	
5,700,554	12/23/97	Speer et al.	428	220	
5,736,616	04/07/98	Ching et al.	825	330	
5,759,653	06/02/98	Collette et al.	428	35	
5,820,956	10/15/98	Hatakeyama et al.	42	31	



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FOREIGN PATENT DOCUMENTS

	Country & Doc. No. (11)	Pub. Date (43)		Class	Sub Class	Translation	
						Yes	No
JP 57-185349	15.11.82	Toray Industries, Inc.	Transl	11	11	X	
EP 083826 A1	20.07.83	American Can Co.		11	11		
EP 367835 A1	16.05.90	Toyo Seikan Kaisha, Ltd.		11	11		
EP 174265 A2	12.03.86	The Goodyear Tire & Rubber Co.		11	11		
EP 186154 A2	02.07.86	Mitsubishi Gas Chemical Co., Inc.		11	11		
EP 507207 A2	07.10.92	W.R. Grace & Co.-Conn.		11	11		
EP 0527902B1	24.02.93	PLM AB		11	11		
EP 0527903 B1	24.02.93	PLM AB		11	11		
EP 0519616 A1	23.12.92	Chevron Research & Technology Co.		11	11		
JP 58-197050	11.16.83	Toyobo Co., Ltd. (English Abstract)					X
JP 58-160344	09.22.83	Toyo Boseki Kabushiki Kaisha (English abstract enclosed)					X

58-197050

OTHER ART

(Including Author, Title, Date, Pertinent Pages, Publication, Etc.)

M.L. Roney, "Active Packaging in Polymer Films," pp. 75-110

Kayumova et al., "Catalytic Properties of Polymers Containing Co(II) and Cu (II) In Liquid-Phase Oxidation of Ethyl Benzol, Kinetics And Catalysis, Vol. XXV, No. 6, 1984 (English translation enclosed)

EXAMINER <i>[Signature]</i>	DATE CONSIDERED <i>[Signature]</i>
--------------------------------	---------------------------------------

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered.

Include copy of this form with next communication to applicant

Notice of References CitedApplication No.
09/241,598

Applicant(s)

Schmidt et al.

Examiner
John J. FigueroaGroup Art Unit
1772

Page 1 of 1

U.S. PATENT DOCUMENTS

	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS
A	4,392,804	7/1983	PUSHEE et al.	425	174.8
B					
C					
D					
E					
F					
G					
H					
I					
J					
K					
L					
M					

FOREIGN PATENT DOCUMENTS

	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUBCLASS
N						
O						
P						
Q						
R						
S						
T						

NON-PATENT DOCUMENTS

	DOCUMENT (Including Author, Title, Source, and Pertinent Pages)	DATE
U		
V		
W		
X		